



TECHNICAL DATA SHEET – PERMAREZ® 348

Revised: 2/2017

DESCRIPTION

PermaRez 348 is a 120 mil multifunctional polymer lining system suited for concrete and steel substrates in aggressive chemical environments. The coating combines micro fillers and epoxy novolac resin to provide maximum durability and superior concrete compatibility.

TYPICAL APPLICATION

PRIMER	PolySpec 100EX @ 5–7 mils (concrete) or American Safety MS11CZLT Primer @ 4–6 mils (steel)
BASECOAT	PermaRez 348 w/F-4 Powder @ 1/16"
FABRIC	Type M (1.5 oz mat)
SATURANT	PermaRez 348 @ 15–20 mils
TOPCOATS	2 coats: NovoRez 351 @ 12–16 mils or NovoRez 360+ @ 20 mils
OPTIONS	Carbon-Filled, Non-Silica Applications (recommended for fluoride or caustic service) Powder: F-5 Powder / Fabric: Type V (Nexus Veil)

PERFORMANCE DATA

COMPRESSIVE STRENGTH (ASTM C - 579)	20,000 psi
TENSILE STRENGTH (ASTM C - 307)	4,000 psi
FLEXURAL STRENGTH (ASTM C- 580)	4,300 psi
BOND STRENGTH (ASTM D - 4541)	425 psi
ABRASION RESISTANCE (ASTM D - 4060)	70 mg
OPERATING TEMPERATURE, MAXIMUM, DRY: WET:	300°F Dependent on chemical exposure
VOC	0.00 lb/gal / 0.00 mg/L
VOLUME SOLIDS	100%

BENEFITS

- Resists aggressive chemicals and concentrated acids, including 98% sulfuric acid, phosphoric acid and hydrochloric acid in immersion service
- Superior thermal compatibility with concrete when compared with conventional coatings
- 100% solids, zero VOC formulation
- No heat or baking required

RECOMMENDED USES

- Process area floors
- Secondary containment
- Truck loading/unloading areas
- Pump pads
- Pedestals
- Curbs

GENERIC DESCRIPTION: Epoxy Novolac

STANDARD COLORS:

Gray, (Amber liquid, before addition of F-4 Powder)
Topcoat: See NovoRez 351 or 360+ data sheet

PACKAGING:

- 3-Gallon Unit
Powder sold separately; per 3-Gallon Unit:
- 75 pounds F-4 Powder, sold in 50 lb bags
 - 18 pounds F-5 Powder, sold in 30 lb pail
- Fabric sold separately:
- Type M sold in 1,000 ft² rolls
 - Type V (Nexus Veil) sold in 6,000 ft² rolls

MIX RATIO: 2 R : 1 H

COVERAGE: 30–35 ft² / gallon @ 120 mils
(Includes one 1/16" coat and saturant)
SEE SYSTEM DETAILS IN "TYPICAL INSTALLATION"
PORTION OF THIS DOCUMENT

PERMAREZ® 348
REINFORCED LINING FOR CONCRETE & STEEL,
CHEMICAL RESISTANT

STORAGE & INSTALLATION

STORAGE ENVIRONMENT	Dry area, 65-80°F
APPLICATION TEMPERATURE, AMBIENT	50-95°F
APPLICATION TEMPERATURE, SUBSTRATE	Minimum 5°F above dew point
SHELF LIFE	1 year
POT LIFE, @ 77°F	30 minutes
FOOT TRAFFIC, @ 77°F	12 hours
FULL SERVICE, @ 77°F	7 days
RECOAT WINDOW	24 hours

CONSIDERATIONS & LIMITATIONS

- For best results, work area should be humidity and temperature controlled.
- Do not thin with solvents unless advised to do so by ITW Engineered Polymers.
- Confirm product performance in specific chemical environment prior to use.
- Prepare substrate according to "Surface Preparation" portion of this document.
- Do not apply to slabs on grade unless a heavy unruptured vapor barrier has been installed under the slab.
- Always use protective clothing, gloves and goggles consistent with OSHA regulations during use. Avoid eye and skin contact. Do not ingest or inhale. Refer to Material Safety Data Sheet for detailed safety precautions.
- For industrial/commercial use. Installation by trained personnel only.

SURFACE PREPARATION

CONCRETE: Apply only to clean, dry and sound concrete substrates that are free of all coatings, sealers, curing compounds, oils, greases or any other contaminants.

- New concrete should be cured a minimum of 28 days.
- Concrete that has been contaminated with chemicals or other foreign matter must be neutralized or removed.
- Remove any laitance or weak surface layers.
- Concrete should have a minimum surface tensile strength of at least 300 PSI per ASTM D-4541.
- Surface profile shall be CSP-3 to CSP-5 meeting ICRI (International Concrete Repair Institute) standard guideline #03732 for coating concrete, producing a profile equal to 60-grit sandpaper or coarser. Prepare surface by mechanical means to achieve this desired profile.
- Moisture vapor transmission should be 3 pounds or less per 1,000 square feet over a 24 hour time period, as confirmed through a calcium chloride test, as per ASTM E-1907. Quantitative relative humidity (RH) testing, ASTM F-2170, should confirm concrete RH results <75%.
- All surface irregularities, cracks, expansion joints and control joints should be properly addressed prior to application.
- Outgassing may occur due to the porosity of some concrete surfaces. To reduce the effect of outgassing, the primer and coating should be applied when the temperature of the concrete substrate is dropping. This usually occurs in the evening; however, the concrete substrate temperature should be measured with a surface thermometer for verification. Double priming will greatly reduce the effects of outgassing by additionally filling the pores in the concrete.

STEEL: For immersion service, "White Metal" abrasive blast with an anchor profile of 2-4 mils in accordance with Steel Structures Painting Council Specification SP-5-63 or NACE No. 1 is required. For splash and spillage exposure, "Near White" SP-10-63 or Nace 2 is required.

Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

- Prime surface with PolySpec 100EX (concrete) or American Safety MS11CZLT Primer, (steel). See data sheet for application details.
- Pour Component B Hardener into Component A Resin pail. Mix well using a mechanical jiffy-type mixer operated at low speed until a consistent color is attained. Scrape the sides of the pail to ensure the entire product has been properly mixed; any unmixed material left on the side of the pail will not cure.
- Stir in F-4 or F-5 filler powder and mix well until all particles are wetted out.
NOTE: Mix ratio is approximately 25 pounds F-4 (or 6 pounds F-5) filler per mixed gallon of binder.
- Spread basecoat mixture onto surface by trowel to a thickness of 1/16". Immediately lay the reinforcement fabric into the basecoat and press out all air pockets with a dry paint roller.
- Saturate the reinforcement with a coat of catalyzed PermaRez 348 Resin (without powder). Roll out saturant coat until the whiteness of the reinforcement disappears.
- After the saturated basecoat has dried, grind down any burrs that have appeared on the surface.
- Topcoat with NovoRez 351 (or, for additional chemical resistance, NovoRez 360). See data sheet for application details.
NOTE: Recoat time over saturant coat is normally 24 hours.
- Always wear gloves when using this product.

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